

Final Progress Report

Progress Report # 9

Reporting Period: November 1, 2008
– June 25, 2009

Submittal Date: **June 25, 2009**

Agreement No: 05-230-55-0

Project Name: ASBS Planning Program - Integrated Coastal Watershed Management (ICWM) Plan

Contractor Name: City of Newport Beach

Program Director/Designated Representative: Dave Kiff /Robert Stein

Summary of Work Completed During This Last Reporting Period

<u>Task</u>	<u>Deliverable by Subtask #</u>	<u>Due Date</u>	<u>% of Work Complete</u>	<u>Date Submitted</u>
1.0 PAEP, Monitoring Plan, QAPP and CEQA	1.1 Project Assessment and Evaluation Plan	6/06	100%	6/09
	1.2 Monitoring Plan	10/06	100%	1/07
	1.3 Quality Assurance Plan	10/06	100%	1/07
	1.4 California Environmental Quality Act	2/07	100%	2/07
2.0 WORK TO BE PERFORMED BY GRANTEE				
2.1 Plan Preparation Activities (Consultant: Weston Solutions) (100% complete)	2.1.1 Gather Information	5/06	100%	9/06
	2.1.2 ICWMP TAC meetings	6/06	100%	
	2.1.3 Agency meetings	6/06	100%	
	2.1.4 ICWMP timeline	6/06	100%	
	2.1.5 Identify subcontractors	6/06	100%	11/06
2.2 Public Use Impact Report (Consultant: Coastal Resources)	2.2.1 Review Background Data and Reports	6/06	100%	5/07
	2.2.2 Public Use Report	8/07	100%	6/09
2.3 Urban Runoff Flow and Water Quality Assessment (Consultant: Weston Solutions)	2.3.1 Review baseline data	03/08	100%	
	2.3.2 Review and collect water quality data	03/08	100%	
	2.3.3 Drainage Area Water Quality Assessment Reports	7/06	100%	01/07

2.4 Cross-Contamination Impacts (Consultant: Everest International Consultants)	2.4.1 Review previous Newport Coast and Laguna Beach watershed reports	8/06	100%	4/07
	2.4.2 Review existing coastal watershed program, marine habitat sites and monitoring programs	8/06	100%	4/07
	2.4.3 Establish range of loading rates for specific constituents	9/06	100%	8/08
	2.4.4 Review water quality data for CCA #69	8/06	100%	8/08
	2.4.5 Review sediment discharge data	8/06	100%	8/08
	2.4.6 Review longshore current and pollutant transport data	8/06	100%	8/08
	2.4.7 Pollutant Loading Report (* report includes results from Tasks 2.4.3 to 2.4.7.)	10/06	100%	8/08
	2.4.8 Expand GIS database	2/07	100%	6/09
	2.4.9 Prepare the hydrodynamic and water quality model	11/06	100%	8/08
	2.4.10 Estimate typical currents using the model	12/06	100%	8/08
	2.4.11 Prepare a Particle Tracking Analysis	1/07	100%	8/08
	2.4.12 Draft Cross-Contamination Impact Report	2/07	100%	6/09
	2.4.13 Final Cross-Contamination Impact Report	3/07	100%	6/09
2.5 ASBS Research and Data Collection and Pilot Renovation Program (Consultants: Weston Solutions, UCI and Cal-State Fullerton)	2.5.1 Review data from other marine protection areas.	7/06	100%	5/07
	2.5.2 Review flow and water quality report from the Cities of Newport Beach and Laguna Beach	7/06	100%	5/07
	2.5.3 Define a toxicological study	3/08	100%	3/08
	2.5.4 Conduct the toxicological study	3/08	100%	3/08
	2.5.5 Define ASBS baseline information. Prepare a monitoring mitigation plan (MMP). Define a comparison study with a reference ASBS	3/08	100%	3/08
	2.5.6 Implement MMP and Comparison Study (Biological Surveys)	11/06	100%	5/07
	2.5.7 Define a Pilot Renovation Experiment	5/07	100%	5/07
	2.5.8 Implement a Pilot Renovation Experiment 2 ND PHASE	03/08	100%	3/08
	2.5.9 Add ASBS's to Mineral Management Services tracking program COORDINATE WITH BIGHT 08	6/09	100%	6/09

2.6 Coordinate Elements into ICWMP (Consultant: Weston Solutions)	2.6.1 Develop metric	9/06	100%	6/09
	2.6.2 Draft Integrated Coastal Watershed Management Plan (ICWMP)	11/07	100%	4/07
	2.6.3 TAC review of ICWMP	12/07	100%	5/07
	2.6.4 Final ICWMP	2/08	100%	11/07
2.7 CEQA Documentation and Permits (Consultants: Cal-State Fullerton and Weston Solutions)	2.7.1 Obtain list of required Permits, CEQA	2/07	100%	1/07
	2.7.2 Submit permits, CEQA	2/07	100%	1/07
2.8 Community Outreach and Agency Training (City is the lead on this task)	2.8.1 Submit website information	10/07	100%	6/09
	2.8.2 Public Forums	8/07	100%	6/09
	2.8.3 Training Manuals	12/07	100%	6/09

Introduction

This grant project implements a series of assessment and studies to identify, investigate and quantifying those environmental impacts having the most deleterious effects on the water quality and habitat of the ASBS. These studies include:

- water quality and flow assessment of the coastal canyons and ASBS,
- Newport Bay cross contamination study
- public use impact assessment
- toxicity testing, bioaccumulation studies and biological survey

The field studies are complete and the information is now being analyzed. Based on the findings of these studies, an ASBS Impact Metric will be prepared that will semi-quantitatively present the weight of evidence on the environmental impacts of most concern.

A monitoring mitigation plan will present the findings of the assessment studies and proposed Impact Metric. The Impact Metric will be used as the assessment tool to establish priority issues to be addressed under a mitigation management plan for the ASBS. The mitigation management plan will be included into the ICWMP (Task 2.6) and will summarize management strategies to be used for addressing the prioritized issues. The management plan will also include a mitigation monitoring program (Task 2.6.1). The Impact Metric will also be used to assess the effectiveness of the management measures in reducing the impacts to the marine ecology.

Finally, under this grant, a pilot restoration effort was initiated to restore a native marine plant species, rockweed, into the rocky intertidal areas at the mouth of Buck Gully.

Program Progress

All contract tasks have now been completed including:

- Project Assessment and Evaluation Plan – Evaluation Assessment (Task 1.1)
- Public Use Impact Studies (Task 2.2.2)

- Particle Tracking Analysis (Task 2.4.8)
- Final Cross-Contamination Impact Report (Task 2.4.13)
- Final Results of the Restoration Efforts at Little Corona (Task 2.5.9)
- Impact Metric (Task 2.6.1)

Task Accomplishments (November 1, 2008 to June 25, 2009)

This section describes the work completed in the past period in order to complete each of the contract tasks.

Task 1.0 Project Assessment and Evaluation Plan (PAEP), Monitoring Plan, Quality Assurance Project Plan (QAPP) and California Environmental Quality Act

The PAEP, QAPP and Monitoring Plan are complete. The Evaluation Assessment has been prepared and summarizes the results of the studies conducted under this grant project that are the basis for the development of the Impact Metric including the task outcomes and measurements of task effectiveness.

Task 2.1 Plan Preparation Activities

This task has been completed.

Task 2.2 Public Use Impact Report

2.2.1 Review Background Data and Reports

This sub-task has been completed.

2.2.2 Public Use Report

The Final Report summarizing the year-long public use impact studies is attached. This sub-task is now complete.

Task 2.3 Urban Runoff Flow and Water Quality Assessment

This task is completed. The results of the additional ASBS studies including the additional toxicity tests, bioaccumulation studies and biological surveys of the rocky inter-tidal are presented in the mitigation monitoring plan (Task 2.5.6) and the mitigation management plan (Task 2.6).

Task 2.4 Cross Contamination Impacts

2.4.1 Review previous Newport Coast and Laguna Beach watershed Reports

This subtask is completed.

2.4.2 Review Existing Coastal Watershed Program

This subtask is completed.

2.4.3 Establish Range of Loading Rates for Specific Constituents

This subtask is completed.

2.4.4 Review Water Quality Data for CCA#69

This subtask is completed.

2.4.5 Review Sediment Discharge Data

This subtask is completed.

2.4.6 Review Long-shore Current and Pollutant Transport Data

This subtask is completed.

2.4.7 Pollutant Loading Report (Results from Tasks 2.4.1 to 2.4.6)

This subtask is completed.

2.4.8 Expand the GIS Database

This subtask is completed.

2.4.9 Prepare the Hydrodynamic and Water Quality Model

This subtask is completed.

2.4.10 Estimate Typical Currents with Model

This subtask is completed.

2.4.11 Prepare a Particle Tracking Analysis

This subtask is completed.

2.4.12 Draft Cross Contamination Impact Report

This task is now completed.

2.4.13 Final Cross-Contamination Impact Report

The Final Cross Contamination Impact Report is attached.

Task 2.5 ASBS Research and Data Collection and Pilot Renovation Program

2.5.1 Review Data from other Marine Protection Programs

This subtask is completed.

2.5.2 Review Flow and Water Quality Reports

This subtask is completed.

2.5.3 Define Toxicity Study

This subtask is completed.

2.5.4 Conduct Toxicity Study

This subtask is completed.

2.5.5 Define Baseline ASBS Baseline Information

This subtask is completed.

2.5.6 Implement Monitoring Mitigation Plan and Comparison Study

This task is complete.

2.5.7 Define a Pilot Renovation Experiment

Subtask is completed.

2.5.8 Implement a Pilot Renovation Experiment

The purpose of this study was to test the efficacy of several methods for experimentally reestablishing *Silvetia compressa* at Little Corona del Mar (CDM) in Orange County, California. The ultimate goal is to: a) determine an effective procedure that can be used to re-establish *Silvetia compressa* at this site, and 2) re-establish this rockweed at CDM where it was prevalent previous to the 1950s. This study was implemented in two stages.

In Stage I, California State University at Fullerton (CSUF) investigated two methods involving the transplantation of juvenile thalli (< 2.5 cm in diameter) and the relocation of fertile reproductive structures starting in February 2007. The effects of grazing and canopy-protection, two factors known to influence the success of early post-settlement stages of rockweeds, such as *Silvetia*, also were determined. Stage I studies were conducted at four study sites using a three-way factorial design. The transplanted and seeded replicates were monitored monthly which will continue until ~July 2008. As of March 2008, CSUF had not been successful in re-establishing recruits from our initial, two-month seeding technique. Transplantation of juveniles has resulted in relatively low survival, although survival was enhanced by the presence of the experimental canopy treatment.

In Stage II studies, initiated in January 2008, a third method was chosen entailing the transplantation of fertile adult thalli (15-40 cm in length) and juvenile thalli onto both horizontal (< 30°) and the landward sides of vertical (> 45°) surfaces at Little Corona del Mar. Similar sized individuals on both types of surfaces were marked at Morning Canyon, but not manipulated, to compare transplants with natural survival rates. Monthly monitoring of these transplants and marked plants continued until January 2009. This process turned out to be successful with survival rates. The results of the study are summarized in the Rockweed Restoration Report which is attached. This task is now complete.

Task 2.6 Coordinate Elements into Integrated Coastal Watershed Management Plan

2.6.1 Develop Impact Metric

The final Impact Metric Technical Report has been completed and is attached. The metric was developed based on final results from the biological surveys, water quality monitoring, bioaccumulation studies and restoration pilot project. This task is now complete.

2.6.2 Draft Integrated Coastal Watershed Management Plan

This task is completed.

The draft Newport Coastal Watershed Management Plan was completed in May 2007.

2.6.3 TAC and Stakeholder Review

This task is completed.

2.6.4 Integrated Coastal Watershed Management Plan

This task is completed.

Task 2.7 CEQA Documentation and Permits

This task is completed.

Task 2.8 Community Outreach and Agency Training

2.8.1 Website Information

Information on the ASBS program can be found on the City's website:

<http://www.city.newport-beach.ca.us/watershed/>. The website is currently being updated with the most recent information developed under this grant contract as well as from other ASBS studies underway under the BIGHT '08 program..

2.8.2 Public Forums

This task is completed.

2.8.3 Training Manuals

Excerpts from the Newport Coast Integrated Coastal Water Management Plan and Appendices have been distributed to staff in our Public Works, General Services, Code Enforcement and Planning Departments. Copies have also been given to members of the City's Bay/Coastal Water Quality Committee which is composed of councilmembers, Orange County Health Care Agency and members of the community. This task is now completed.

Project Budget

An invoice has been prepared for reimbursement of the remaining grant tasks has been submitted.

Submitted by: _____ Date: _____

Attachment:

- Project Assessment and Evaluation Plan – Evaluation Assessment (Task 1.1)